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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	09/657,119	CONNER ET AL.	
	Examiner	Art Unit	
	ROBERT W. WILSON	2475	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-19,42-86 and 90-92* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-19, 42-86, & 90-92* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 4-6 & 90-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Mackey (U.S. Patent No.; 6,163,879) further in view of Callon (U.S. Patent No.: 6,643,287)

Referring to Claim 4, Admitted Prior Art teaches a routing method in a data processing system (Figs 1A, 1B, Figs 2A, Fig 2B, Fig 2C, and Fig 2D perform the method) comprising:

retrieving (CPUS per Fig 1B perform retrieving)

hashing for hashing the key to determine a table index into a table (CPUs per Fig 1B perform hashing of a key per 222 per Fig 2D)

Reading a target address from a table entry using the table index (CPUS per Fig 1B perform reading of the target address per 226 per Fig 2D)

Reading a target address form a table entry using the table index wherein the target address has been related to and stored in the table entry based on a computed value from a mathematical computation using the table index and the target address as values in the computation (202 per Fig 2D has target address which has been related to and stored in a table entry based on computed value using table index and target address as values in the computation)

modifying (The CPUs per Fig 1B perform modifying)

Admitted Prior Art does not expressly call for: relation computation using operands or retrieving a destination address from the data packet, hashing the destination address and modifying the data packet by storing the target address in the data packet and transmitting the modified data packet

Mackey teaches: relationship computation using operands (relation between variables or operands is mathematical computation per col. 4 lines 45-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the relation computation using operands or variables of Mackey in place of the mathematical combine computation of Mackey because relationship using operands performs the same function as mathematical combine computation.

The combination of Admitted Prior Art and Mackey do not expressly call for: retrieving a destination address from the data packet, hashing the destination address and modifying the data packet by storing the target address in the data packet and transmitting the modified data packet

Callon teaches: retrieving a destination address from the data packet, hashing the destination address and modifying the data packet by storing the target address in the data packet and transmitting the modified data packet (examines the destination address or retrieving, hashing the destination address to determine an inherent key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address as well as transmitting the data packet into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the retrieving the destination address from the data packet, hashing the destination address of modifying the data packet by storing the target address in the data packet and transmitting of Callon to the system of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

In addition the Admitted Prior Art teaches:

Regarding Claims 5, further comprising the step of relating a particular table entry to a target address (CPUs per Fig 1B perform relating per 226 per Fig 2D) which
For each target address in the set of target address, generating a computed value using the table index for a particular entry and a target address as operands in the relation computation to obtain a set of computed values (CPUs per Fig 1B generating a computed value per 226 per Fig 2D)

Choosing a computed value from the set of computed values based upon the mathematical relationship among the set of computed values (CPU per Fig 1B performs per 226 & 232 per Fig 2D)

determining a related target address of the particular entry based on the chosen computed value wherein the chosen computed value was computed using the related target address as input (CPUs per Fig 1B perform computing per 232 per Fig 2D)

Regarding Claim 6, further comprising:

Obtaining a set of target address (CPUs per Fig 1B perform obtaining per 226 per Fig 2D

For each table entry relating a target address form the set of target address to a table entry such that each table entry is related with only one target address (CPUs per Fig 1B perform relating per 226 per Fig 2D

storing in each table entry its related target address (202 per Fig 2D stored)

Referring to claim 90, the Admitted Prior Art teaches: a routing method in a data processing system comprising the step of receiving a data packet (Figs 1B and 2D perform the method)

Receiving a data packet (Adapter per Fig 1B receives the packet) :

hashing the destination address to determine a table index into a table in a computer readable medium (The CPU hashes the key per Fig 2D in order to determine a table index into Target Set or table in RAM or ROM or computer readable medium)

reading the target address from a table entry using the table index, wherein the target address has been related and stored in the table entry based on a computed value from a computation using the table index and the target address variables in the computation wherein the computation is a nearness function (Fig 2D and scores are compared or nearness function per Pg 14 lines 1-10)

The Admitted Prior Art does not expressly call for: relation computation using operands or hashing the destination address and modifying the data packet by storing the target address in the data packet

Mackey teaches: relationship computation using operands (relation between variables or operands is mathematical computation per col. 4 lines 45-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the relation computation using operands or variables of Mackey in place of the mathematical computation of Mackey because relationship using operands performs the same function as mathematical combine computation.

The combination of Admitted Prior Art and Mackey do not expressly call for: retrieving a destination address from the data packet, hashing the destination address and modifying the data packet by storing the target address in the data packet and transmitting the modified data packet

Callon teaches: retrieving a destination address from the data packet, hashing the destination address and modifying the data packet by storing the target address in the data packet and transmitting the modified data packet (examines the destination address or retrieving, hashing the destination address to determine an inherent key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address as well as transmitting the data packet into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the retrieving the destination address from the data packet, hashing the destination address of modifying the data packet by storing the target address in the data packet and transmitting of Callon to the system of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

In addition Admitted Prior Art teaches:
Regarding Claims 91, further comprising the a step of relating a particular table entry to a target address in which

For each target address in the set of target addresses, generating a computed value using the table index for the particular entry and a target address as operands in the relation computation to obtain a set of computed values (Fig 2D)

Choosing a computed value from the set of computed values based upon a mathematical relationship among the set of computed values (Fig 2D)

Determining a related target address for the particular entry based on the chosen computed value wherein the chosen computed value was computed using the related-target address as input (Fig 2D)

Regarding claim 92, further comprising: obtaining a

determining means for determining a related target address for the particular table entry based on the chosen computed value where the chosen computed value was computed using the related target address as input (CPUs per Fig 1B are determining means which perform determining per 226 and 232 per Fig 2D

set of target addresses (Fig 2D) for each table entry, relating a target address form the set of target addresses to a table entry such that each table entry is related with only one target address (Fig 2D)

And for each table entry storing in a table entry its related target address (Fig 2D)

3. Claims 9-11, 14-16, 42-44, 47-54, 58-60, 63-70, 74-76, & 79-86 are rejected under 35

U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Mackey (U.S. Patent

No.; 6,163,879)

Referring to claim 9, the Admitted Prior art teaches: a method in a data processing system for mapping a source identifier to a target identifier (Fig 2D performs the method), the method comprising the steps of:

Hashing the source identifier to determine a table index into a table in a computer readable medium (222 hashes the key or source identifier to determine a hash value or table index in the Target Set per Fig 2D which is stored in RAM or ROM per Fig 1B)

Reading the target identifier from a table entry using the table index, wherein the target identifier has been related and stored in the table entry based on a computed value from a computation using the table index and the target identifier as values in the computation (226 per Fig 2D reads the target identifier from Target Set per Fig 2D. The Target Set has a Target (Target Identifier) and Hash Value (table index) is determined from a mathematical combined computation per Pg 14 lines 13 of applicant's specification)

Admitted Prior Art does not expressly call for: relation computation using operands

Mackey teaches: relationship computation using operands (relation between variables or operands is mathematical computation per col. 4 lines 45-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the relation computation using operands or variables of Mackey in place of the mathematical combine computation of Mackey because relationship using operands performs the same function as mathematical combine computation.

In addition Admitted Prior Art teaches:

Regarding claim 10, further comprising a step of relating a particular table entry to a target identifier in which for each target identifier in the set of target identifiers, generating a computed value using the table index for the particular table entry and a target identifier as operands in the relation computation to obtain a set of computed values (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Choosing a computed value from the set of computed values based upon a mathematical relationship among the set of computed values (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2) and

Determining a related target identifier for the particular entry based on the chosen computed value wherein the chosen computed value was computed using the related target identifier as input (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 11, further comprising, prior to the step of reading the target identifier form the table entry:

Obtaining a set of target identifiers for each table entry, relating a target identifier from the set of target identifier to a table entry such that each table entry is related with only one target identifier and for each table entry storing a table entry it related target identifier (Fig 2D and per Pg 1 Para

2 to Pg 6 Para 2); and for each table entry storing in a table entry its related target identifier (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 14, wherein the relation computation further comprises:

Receiving the table index and the target identifier as operands for the relation computation (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)
Hashing the table index to generate a second hash value (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)
Hashing the target identifier to generate a second has value (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)
Hashing the first hash value and the second has value to generate a computed value (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 15, obtaining a set of target identifiers wherein each target identifier identifies a computational resource such that each target identifier is related with only one computational resource (The Target A or B or C or target identifiers per Fig 2D refer to servers or clients per Fig 1A as computation resources per Pg 3 lines 14-25 & per Pg 4 lines 20-30)

Regarding claim 16, further comprising: associating a computation resource with a subset of a set of target identifier wherein each target identifier in the set of target identifier is related with only one computational resource and wherein a size of the subset of target identifier is proportional to a computation capacity of the computational resource (The Target A or B or C or target identifiers per Fig 2D refer to servers or clients per Fig 1A or computation resources and the number of size of the targets is proportional to the computation capacity of the network and per Pg 3 lines 14-25 and per Pg 4 lines 20-30)

Referring to claim 42, the Admitted Prior art teaches: a method in a data processing system for mapping a source identifier to a target identifier (Fig 2D performs the method), the method comprising the steps of:

Hashing the source identifier to determine a location identifier of a n entry in a data structure in a computer readable medium (222 hashes the key or source identifier to determine a hash value or table index in the Target Set or data structure per Fig 2D which is stored in RAM or ROM per Fig 1B)

Reading information associated with the target identifier from the entry in the data structure using the location

identifier wherein the information associated with the target identifier has been related to and stored in the entry based on a computed value from a computation using the table index and the target identifier as values in the computation (226 per Fig 2D reads the target identifier from Target Set or data structure per Fig 2D which is stored on 114 &or 116 per Fig 1B or computer readable medium. The Target Set has a Target (Target Identifier) and Hash Value (table index)

is determined from a mathematical combined computation per Pg 14 lines 13 of applicant's specification)

Admitted Prior Art does not expressly call for: relation computation using operands

Mackey teaches: relationship computation using operands (relation between variables or operands is mathematical computation per col. 4 lines 45-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the relation computation using operands or variables of Mackey in place of the mathematical combine computation of Mackey because relationship using operands performs the same function as mathematical combine computation.

In addition Admitted Prior Art teaches:

Regarding claim 43, further comprising a step of relating a particular entry in the data structure to a target identifier in which

for each target identifier in the set of target identifiers, generating a computed value using the table index for the particular table entry and a target identifier as operands in the relation computation to obtain a set of computed values (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Choosing a computed value from the set of computed values based upon a mathematical relationship among the set of computed values (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2) and

Determining a related target identifier for the particular entry based on the chosen computed value wherein the chosen computed value was computed using the related target identifier as input (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 44, further comprising: prior to the step of reading the information associated with the target identifier form the entry in the data structure: obtaining a set of target identifiers (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2); for each entry in the data structure, relating such that each entry in the data structure is related with only one target identifier (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2); for each entry in the data structure, storing in an entry information associated with its related target identifier (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2);

Regarding claim 47, wherein the relation computation further comprises:

Receiving the table index and the target identifier as operands for the relation computation (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)
Hashing the table index to generate a second hash value (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)
Hashing the target identifier to generate a second has value (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Hashing the first hash value and the second has value to generate a computed value (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 48 further comprising obtaining a set of target identifiers wherein each target identifier identifies a computational resource such that each target identifier is related with only one computational resource (The Target A or B or C or target identifiers per Fig 2D refer to servers or clients per Fig 1A as computation resources per Pg 3 lines 14-25 & per Pg 4 lines 20-30)

Regarding claim 49, further comprising: associating a computation resource with a subset of a set of target identifier wherein each target identifier in the set of target identifier is related with only one computational resource and wherein a size of the subset of target identifier is proportional to a computation capacity of the computational resource (The Target A or B or C or target identifiers per Fig 2D refer to servers or clients per Fig 1A or computation resources and the number of size of the targets is proportional to the computation capacity of the network and per Pg 3 lines 14-25 and per Pg 4 lines 20-30)

Regarding claim 50, further comprising: retrieving the target identifier using the information associated with the target identifier (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2) performing a computational process on a computation resource identified by the target identifier (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 51, further comprising wherein the computation resource identified by the target identifier is a memory source (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 52, further comprising wherein the computation resource identified by the target identifier in a data processing system (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 53, wherein the information associated with the target identifier comprises the target identified (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 54, wherein the data structure is a table and the location identifier is a table index (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Referring to claim 58, the Admitted Prior art teaches: a data processing system (Figure 1B or data processing system performs the functions shown in Fig 2D) that enables mapping of a source identifier to a target identifier (Fig 2D), the data processing system comprising

Processor (112 per Fig 1B) and memory (114 or 115 per Fig 1B) comprising instructions (software per Pg 12 line 29 to Pg 13 line 9) which when executed performs actions for hashing the source identifier to determine a location identifier of an entry in a data structure in a computer readable medium (CPU per Fig 1B performs as a first hashing means. 222 hashes the key or source identifier to determine a hash value or table index in the Target Set or data structure per Fig 2D which is stored in RAM or ROM per Fig 1B) and

for reading information associated with the target identifier from the entry in the data structure using the location identifier wherein the information associated with the target identifier has been related to and stored in the entry based on a computed value from a computation using the table index and the target identifier as value in the computation (CPU per Fig 1B performs as reading means. 226 per Fig 2D reads the target identifier from Target Set or data structure per Fig 2D which is stored on 114 &or 116 per Fig 1B or computer readable medium. The Target Set has a Target (Target Identifier) and Hash Value (table index) is determined from a mathematical combined computation per Pg 14 lines 13 of applicant's specification)

Admitted Prior Art does not expressly call for: relation computation using operands

Mackey teaches: relationship computation using operands (relation between variables or operands is mathematical computation per col. 4 lines 45-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the relation computation using operands or variables of Mackey in place of the mathematical combine computation of Mackey because relationship using operands performs the same function as mathematical combine computation.

In addition Admitted Prior Art teaches:

Regarding claim 59, further comprising a first relating means for relating a particular entry in the data structure to a target identifier wherein identifiers, for generating a computed value using the table index for the particular table entry and a target identifier as operands in the relation computation to obtain a set of computed values (CPU per Fig 1B performs functions per Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

for choosing a computed value from the set of computed values based upon a mathematical relationship among the set of computed values (CPU per fig 1B performs functions per Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2) and

for determining a related target identifier for the particular entry based on the chosen computed value wherein the chosen computed value was computed using the related target identifier as input (CPU per Fig 1B performs function per Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 60, the apparatus of claim 59 further comprising a step of reading the information associated with the target identifier from the entry in the data structure

for obtaining a set of target identifiers (CPU per Fig 1B performs as functions per Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

for relating for each entry in the data structure a target identifier from the set of target identifiers to an entry in the data structure such that each entry in the data structure is related with only one

target identifier (CPU per Fig 1B performs as functions per Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

for storing in each entry in the data structure information associated with its related target identifier (RAM and ROM per Fig 1B and per Pg 1 Para 2 to Pg 6 Para 2 stores)

Regarding claim 63, wherein the relation computation further comprises:

for receiving the location identifier and the target identifier as operands for the relation computation (CPU per Fig 1B performs receiving function)

for hashing the location identifier to generate a first hash value (CPU per Fig 1B performs the function hashing function per Pg 1 Para 2 to Pg 6 Para 2)

for hashing the target identifier to generate a second hash value (CPU per Fig 1B performs the hashing means per Pg 1 Para 2 to Pg 6 Para 2) and

for hashing the first hash value and the second hash value to generate a computed value (CPU per Fig 1B performs the hashing per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 64 further comprising: second obtaining a set of target identifiers where each target identifier identifies a computational resource such that each target identifier is related with only one computational resource (Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 65, further comprising :

for associating a computational resource with a subset of set of target identifiers wherein each target identifier in the set of target identifiers is related with only one computational resource, wherein each target identifier is the subset of target identifiers identifies the computational resource and wherein a size o the subset of target identifies is proportional to a computation capacity of the computational resource (CPU per Fig 1B performs associating function per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 66, further comprising: for retrieving the target identifier using the information associated with the target identifier (CPU per Fig 1B or retrieving means per Pg 1 Para 2 to Pg 6 Para 2)

for performing a computational process on a computational resource identified by the target identifier (CPU per fig 1B performs per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 67, further comprising wherein the computation resource identified by the target identifier is a memory resource (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 69, wherein the information associated with the target identifier comprises the target identifier (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 70, wherein the data structure is a table and the location identifier is a table index (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

Referring to claim 74, the Admitted Prior art teaches: a computer program product comprising: a computer readable medium including instructions which when executed in a data processing system map a source identifier to a target identifier (The combination of 114 and 116 per Fig 1B are the computer readable medium that hold the instructions) , the computer program product comprising:

Instructions for hashing the source identifier to determine a location identifier of a n entry in a data structure in a computer readable medium (The combination of 114 and 116 per Fig 1B are the computer readable medium that hold the instructions for hashing as performed by 222 hashes the key or source identifier to determine a hash value or table index in the Target Set or data structure per Fig 2D which is stored in RAM or ROM per Fig 1B)

Instructions for reading information associated with the target identifier from the entry in the data structure using the location identifier wherein the information associated with the target identifier has been related to and stored in the entry based on a computed value from a computation using the table index and the target identifier as operands in the computation (The combination of 114 and 116 per Fig 1B are the computer readable medium that hold the instructions for reading as performed by 226 per Fig 2D reads the target identifier from Target Set or data structure per Fig 2D which is stored on 114 &or 116 per Fig 1B or computer readable medium. The Target Set has a Target (Target Identifier) and Hash Value (table index) is determined from a mathematical combined computation per Pg 14 lines 13 of applicant's specification)

Admitted Prior Art does not expressly call for: relation computation using operands

Mackey teaches: relationship computation using operands (relation between variables or operands is mathematical computation per col. 4 lines 45-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the relation computation using operands or variables of Mackey in place of the mathematical combine computation of Mackey because relationship using operands performs the same function as mathematical combine computation.

In addition Admitted Prior Art teaches:
Regarding claim 75, further comprising instructions for relating a particular table entry to a target identifier (114 and 116 store the instructions for hashing the source identifier per Pg 1 Para 2 to Pg 6 Para 2)

Instructions for generating for each target identifier in the set of target identifier a computed value using the table index for the particular entry and a target identifier as operands in the computation to obtain set of computed values (114 and 116 store the instructions for hashing the source identifier per Pg 1 Para 2 to Pg 6 Para 2)

Instructions for choosing a computed value form the set of computed values based upon a mathematical relationship among the set of computed values (114 and 116 store the instructions for hashing the source identifier per Pg 1 Para 2 to Pg 6 Para 2)

Instructions for determining a related target identifier for the particular table entry based on the chosen computed value wherein the chosen computed value was computed using the related target identifier as an input (114 and 116 store the instructions for hashing the source identifier per Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 76, further comprising instructions for obtaining a set of target identifiers (114 and 116 store the instructions obtaining target identifiers per Pg 1 Para 2 to Pg 6 Para 2)

Instructions for obtaining a set of target identifiers (114 and 116 store the instructions obtaining target identifiers per Pg 1 Para 2 to Pg 6 Para 2)
Instructions for relating for each entry in the data structure, a target identifier form the set of target identifier to an entry in the data structure such that each entry in the data structure is related with only one target identifier(114 and 116 store the instructions relating per Pg 1 Para 2 to Pg 6 Para 2)

Instructions for storing in each table entry its related target identifier (The combination of 114 and 116 per Fig 1B store instructions for storing)

In addition Admitted Prior Art teaches:

Regarding claim 79, wherein the relation computation further comprises:

Instructions for receiving the table index and the target identifier as operands for the relation computation means (The combination of 114 and 116 per Fig 1B store instructions for storing)

Instructions for hashing the table index to generate a first hash value (The combination of 114 and 116 per Fig 1B store instructions for storing)

Instructions for hashing the target identifier to generate a second hash value (The combination of 114 and 116 per Fig 1B store instructions for storing)

Instructions for hashing the first hash value and the second has value to generate a computed value ((The combination of 114 and 116 per Fig 1B store instructions for storing)

Regarding claim 80, further comprising instructions for obtaining a set of target identifiers wherein each target identifier identifies a computational resource wherein each target identifier is the subset of target identifier identifies the computational resource and wherein a size of the subset of target identifiers is proportional to the computational capacity of the computation resource (The combination of 114 and 116 per Fig 1B store instructions for storing)

Regarding claim 81, further comprising instructions for associating a computational resource with a subset of a set of target identifiers wherein each target identifier in the set of target identifiers is related with only one computational resource wherein each target identifier is the subset of target identifier identifies the computational resource and wherein a size of the subset of target identifiers is proportional to a computational capacity of the computational resource (The combination of 114 and 116 per Fig 1B store instructions for storing)

Regarding claim 82, further comprising: instructions for retrieving the target identifier using the information associated with the target identifier (The combination of 114 and 116 per Fig 1B store the instructions for retrieving)

Instructions for performing a computational process on a computational resource identified by the target identifier (The combination of 114 and 116 per Fig 1B store the instructions for performing)

Regarding claim 83, wherein the computational resource identified by the target identifier is a memory location (Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 84, wherein the computational resource identified by the target identifier is a data processing system (Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 85, wherein the information associated with the target identifier comprises the target identifier (Pg 1 Para 2 to Pg 6 Para 2)

Regarding claim 86, wherein the data structure is a table and the location identifier is a table index (Pg 1 Para 2 to Pg 6 Para 2)

4. Claims 17-18, 55-56, & 71-72are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Mackey (U.S. Patent No.; 6,163,879) Further in view of Callon (U.S. Patent No.: 6,643,287)

Referring to claim 17, the combination of Admitted Prior Art and Mackey teaches: the method of claim 9,

The combination of Admitted Prior Art and Mackey do not expressly call for: wherein the source identifier is a network protocol address

Callon teaches: wherein the source identifier is a network protocol address (Hashing the destination address to determine key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the network address of Callon in place of the key of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

Referring to claim 18, the combination of Admitted Prior Art and Mackey teach: the method of claim 9,

The combination of Admitted Prior Art and Mackey do not expressly call for: wherein the target identifier is a network physical address

Callon teaches: wherein the target identifier is a network physical address (Hashing the destination address to determine key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the network physical address of Callon to in place of the key of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

Referring to claim 55, the combination of Admitted Prior Art and Mackey teach: the method of claim 42,

The combination of Admitted Prior Art and Mackey do not expressly call for: wherein the source identifier is a network protocol address

Callon teaches: wherein the source identifier is a network protocol address (Hashing the destination address to determine key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the network address of Callon in place of the key of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

Referring to claim 56, the combination of Admitted Prior Art and Mackey teach: the method of claim 42,

The Admitted Prior Art does not expressly call for: wherein the target identifier is a network physical address

Callon teaches: wherein the target identifier is a network physical address (Hashing the destination address to determine key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the network physical address of Callon to in place of the key of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

Referring to claim 71, the combination of Admitted Prior Art and Mackey teaches: the data processing system of claim 58

The combination of Admitted Prior Art and Mackey do not expressly call for: wherein the source identifier is a network protocol address

Callon teaches: wherein the source identifier is a network protocol address (Hashing the destination address to determine key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the network address of Callon in place of the key of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

Referring to claim 72, the combination of Admitted Prior Art and Mackey teach: the data processing system of claim 58
The combination of Admitted Prior Art and Mackey do not expressly call for: wherein the target identifier is a network physical address

Callon teaches: wherein the target identifier is a network physical address (Hashing the destination address to determine key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the network physical address of Callon to in place of the key of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

5. Claim 68 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior

Art in view of Mackey (U.S. Patent No.; 6,163,879) further in view of Woo (U.S. Patent No.:

6,604,147)

Referring to claim 68, the combination of Admitted Prior Art and Mackey teach: the data processing system of claim 64 and Admitted Prior Art teaches: further comprising wherein the

computation resource identified by the target identifier (Fig 2D and per Pg 1 Para 2 to Pg 6 Para 2)

The combination of Admitted Prior Art and Mackey do not expressly call for: router

Woo teaches: router (router address determined by hashing per col. 8 lines 32 to 47)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the router of Woo in place of the target identifier of the combination of Admitted Prior Art and Mackey in order to determine where to route the packet.

6. Claim 57 & 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted

Prior Art in view of Mackey (U.S. Patent No.; 6,163,879) further in view of Kravets (U.S. Patent

No.: 6,363,377)

Referring to claim 57, the combination of Admitted Prior Art and Mackey teach: the method of claim 42 and target identifier

The combination of Admitted Prior Art and Mackey do not expressly call for: URL

Kravets teaches: URL (URL per col. 8 lines 45-49)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the URL of Kravets in place of the target identifier of the combination of Admitted Prior Art and Mackey in order to determine where to route the packet.

Referring to claim 73, the combination of Admitted Prior Art and Mackey teach: the data processing system of claim 58 and target identifier

The combination of Admitted Prior Art and Mackey do not expressly call for: URL

Kravets teaches: URL (URL per col. 8 lines 45-49)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the URLof Kravets in place of the target identifier of the combination of Admitted Prior Art and Mackey in order to determine where to route the packet.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 7-8, 9-19, 42-57, 58-73, are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Referring to claims 7 -8, claims 7- 8 are directed to a method. A data processing system is mentioned in the preamble which means that the data processing system is an intended use and not a positive claim recitation. The method steps are not performed by a particular machine and the steps also are abstract and lacking a particular practical application and therefore preempt all practical uses of and consequently the claims are non-statutory.

Referring to claims 9-19, claims 9-19 are directed to a method. A data processing system is mentioned in the preamble which means that the data processing system is an intended use and not a positive claim recitation. The method steps are not performed by a particular machine and the steps also are abstract and lacking a particular practical application and therefore preempt all practical uses of and consequently the claims are non-statutory.

Referring to claims 42-57, claims 42-57 are directed to a method. A data processing system is mentioned in the preamble which means that the data processing system is an intended use and not a positive claim recitation. The method steps are not performed by a particular machine and the steps also are abstract and lacking a particular practical application and therefore preempt all practical uses of and consequently the claims are non-statutory

Referring to claims 58-73, claims 58-73 are directed to a data processing system or machine. The claims lack a particular practical application and therefore preempt all practical uses of and consequently the claims are non-statutory

Referring to claims 74-86, claims 74-86 are directed to a computer readable medium or article of manufacture. Applicant's amended specification still defines the computer readable medium definition as open ended ; consequently, the computer readable medium can still be interpreted as a transitory medium and the claims limitations lack a particular practical application and therefore preempt all practical uses of and consequently these claims are non-statutory because the computer readable medium can still be interpreted as a transitory medium or signal. The examiner recommends that the applicant amend the claim to a non-transitory computer readable medium and to argue on the record that there is no intent for the computer readable medium to be interpreted as a transitory medium or signal. The applicant also needs to amend the claim to add a particular practical application.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 11-13, 44-46, 60-62, & 74-78 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claims 11-13, 44-46, 60-62, & 76-78; what is meant by "its"?

Referring to claim 74-84, because there are two comprising in the claim limitation it is unclear whether applicant is claiming a computer program product or computer readable medium.

Response to Amendment

12. Applicant's arguments with respect to claims 4-19, 42-86 & 90-92 & 90-92 have been considered but are moot in view of the new ground(s) of rejection.

In order to be completely responsive to applicant's argument the examiner has provided the following explanation.

Relative to claim 74, the examiner disagrees with applicant's argument that the 101 rejection has been traversed. Please refer to the rejection provided above for details.

Relative to 102 (a) rejection:

The examiner respectfully disagrees with the applicant argument that the reference needs to teach: computer value table index and target identifier as operand because the claim language is not for a computer value but a computed value.

The examiner respectfully disagrees with the applicant's argument that the combination of reference do not teach: A method in a data processing system for mapping a source identifier to a target identifier, the method comprising the steps of:

hashing the source identifier to determine a table index into a table in a computer readable medium

Reading the target identifier from a table entry using the table index, wherein the target identifier has been related and stored in the table entry based on a computed value from a relation computation using the table index and the target identifier as operands in the relation computation

The Admitted Prior art teaches: a method in a data processing system for mapping a source identifier to a target identifier (Fig 2D performs the method) , the method comprising the steps of:

Hashing the source identifier to determine a table index into a table in a computer readable medium (222 hashes the key or source identifier to determine a hash value or table index in the Target Set per Fig 2D which is stored in RAM or ROM per Fig 1B)

Reading the target identifier from a table entry using the table index, wherein the target identifier has been related and stored in the table entry based on a computed value from a mathematical computation using the table index and the target identifier as values in the computation (226 per Fig 2D reads the target identifier from Target Set per Fig 2D. The Target Set has a Target (Target Identifier) and Hash Value (table index) is determined from a mathematical combined computation per Pg 14 lines 13 of applicants specification)

Admitted Prior Art does not expressly call for: relation computation using operands

Mackey teaches: relationship computation using operands (relation between variables or operands is mathematical computation per col. 4 lines 45-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the relation computation using operands or variables of Mackey in place of the mathematical combine computation of Mackey because relationship using operands performs the same function as mathematical combine computation.

Relative to 103 rejection

The examiner respectfully disagrees with the applicant's argument that the combination of reference do not teach: a routing method in a data processing system comprising:

retrieving a destination data packet

hashing a destination address to determine the table index into a table in a computer readable medium;

reading a target address form a table entry using the table index wherein the target address has been related to and stored in the table entry based on a computed value form a relation computation using the table index and the target address as operands in the relation computation modifying the data packet by storing the target address in the data packet and transmitting the modified data packet.

Admitted Prior Art teaches a routing method in a data processing system (Figs 1A, 1B, Figs 2A, Fig 2B, Fig 2C, and Fig 2D perform the method) comprising:

retrieving a destination address from the data packet (CPUS per Fig 1B perform retrieving)

hashing for hashing the key to determine a table index into a table (CPUs per Fig 1B perform hashing of a key per 222 per Fig 2D)

Reading a target address from a table entry using the table index (CPUS per Fig 1B perform reading of the target address per 226 per Fig 2D)

Reading a target address form a table entry using the table index wherein the target address has been related to and stored in the table entry based on a computed value from a mathematical computation using the table index and the target address as values in the computation (202 per Fig 2D has target address which has been related to and stored in a table entry based on computed value using table index and target address as values in the computation)

modifying (The CPUs per Fig 1B perform modifying)

Admitted Prior Art does not expressly call for: relation computation using operands or retrieving a destination address from the data packet, hashing the destination address and modifying the data packet by storing the target address in the data packet and transmitting the modified data packet

Mackey teaches: relationship computation using operands (relation between variables or operands is mathematical computation per col. 4 lines 45-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the relation computation using operands or variables of Mackey in place of the mathematical combine computation of Mackey because relationship using operands performs the same function as mathematical combine computation.

The combination of Admitted Prior Art and Mackey do not expressly call for: retrieving a destination address from the data packet, hashing the destination address and modifying the data packet by storing the target address in the data packet and transmitting the modified data packet

Callon teaches: retrieving a destination address from the data packet, hashing the destination address and modifying the data packet by storing the target address in the data packet and transmitting the modified data packet (examines the destination address or retrieving, hashing the destination address to determine an inherent key and then utilizing the key to determine the next hop which inherently requires inserting the next hop destination address as well as transmitting the data packet into the packet

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the retrieving the destination address from the data packet, hashing the destination address of modifying the data packet by storing the target address in the data packet and transmitting of Callon to the system of the combination of Admitted Prior Art and Mackey in order to build a system which can route packets.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT W. WILSON whose telephone number is (571)272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571/272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert W Wilson/
Primary Examiner, Art Unit 2475

RWW
10/29/07